Nathalie Vaeck

List of Publications by Year
in descending order

53	793	430874	552781
papers	citations	18 h-index	26 g-index

53	53	53	454
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Calculations for 1s23l3l' states in C2+, N3+, O4+, Ne6+and Xe50+. Journal of Physics B: Atomic, Molecular and Optical Physics, 1989, 22, 3137-3153.	1.5	41
2	Core polarization in Ca I and Ca II. Physica Scripta, 1993, 48, 533-545.	2.5	40
3	The introduction of B-spline basis sets in atomic structure calculations. Physica Scripta, 1993, T47, 7-17.	2.5	36
4	Time-dependent wave-packet treatment of theSi4++Hecollision. Physical Review A, 2001, 63, .	2.5	34
5	Auger decay of hollow nitrogen atoms. Journal of Physics B: Atomic, Molecular and Optical Physics, 1995, 28, 3523-3543.	1.5	31
6	Ab initiocalculation of the 66 low-lying electronic states of HeH⁺: adiabatic and diabatic representations. Journal of Physics B: Atomic, Molecular and Optical Physics, 2010, 43, 065101.	1.5	31
7	Wave packet methods for charge exchange processes in ion-atom collisions. Journal of Chemical Physics, 2001, 114, 8741-8751.	3.0	30
8	Nonadiabatic interactions in wave packet dynamics of the bromoacetyl chloride photodissociation. Journal of Chemical Physics, 2004, 120, 1271-1278.	3.0	30
9	Radiative stabilization in double-electron capture to 4l4l' and 4l5l' states in O6+. Journal of Physics B: Atomic, Molecular and Optical Physics, 1994, 27, 3489-3514.	1.5	28
10	Non-adiabatic effects in the photodissociation of bromoacetyl chloride. Chemical Physics Letters, 2003, 374, 307-313.	2.6	28
11	Competition between radiative and non-radiative decay processes in triply-excited 3131'nl" and doubly-excited 2lnl' states in nitrogen ions. Journal of Physics B: Atomic, Molecular and Optical Physics, 1992, 25, 3267-3282.	1.5	24
12	Study of the electronic rearrangement induced by nuclear transmutations: AB-spline approach applied to the Î² decay ofHe6. Physical Review C, 1996, 53, 497-500.	2.9	23
13	Lifetimes of multiply-excited states in nitrogen. Journal of Physics B: Atomic, Molecular and Optical Physics, 1991, 24, L469-L475.	1.5	22
14	Radiative stabilization of the doubly-excited 4l4l' and 4l5l' singlet terms in Ne8+. Journal of Physics B: Atomic, Molecular and Optical Physics, 1995, 28, 5207-5228.	1.5	22
15	Control of molecular dynamics with zero-area fields: Application to molecular orientation and photofragmentation. Physical Review A, 2014, 90, .	2.5	22
16	Photodissociation of theHeH+ion into excited fragments(n=2,3)by time-dependent methods. Physical Review A, 2009, 80, .	2.5	20
17	Multiphoton spectroscopy of doubly excited autoionizing states of Ca. Journal of Physics B: Atomic, Molecular and Optical Physics, 1991, 24, 4363-4377.	1.5	19
18	Chemical effects in Auger electron spectra of aluminium. Surface and Interface Analysis, 2002, 34, 356-359.	1.8	19

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19	Recoil-induced electronic excitation and ionization in one- and two-electron ions. Journal of Physics B: Atomic, Molecular and Optical Physics, 1997, 30, 4569-4589.	1.5	18
20	Non-adiabatic wavepacket dynamics for charge-exchange processes in ion-atom collisions: application to. Journal of Physics B: Atomic, Molecular and Optical Physics, 1999, 32, 409-428.	1.5	18
21	Calculations of Auger Energies and Autoionisation Rates forKLLLMMTransitions Involved in the Neutralisation of Nitrogen Ions at Surfaces. Physica Scripta, 1992, T41, 41-44.	2.5	16
22	Calculation of Auger rates for complex hollow-atom configurations. Journal of Physics B: Atomic, Molecular and Optical Physics, 2001, 34, 4125-4139.	1.5	16
23	Ab initiocalculation ofH+He+charge-transfer cross sections for plasma physics. Physical Review A, 2010, 82, .	2.5	16
24	Charge transfer in protonâ€“helium collisions from low to high energy. Journal of Physics B: Atomic, Molecular and Optical Physics, 2014, 47, 135204.	1.5	16
25	Rovibrational analysis of the XUV photodissociation of HeH<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mrow /><mml:mo>+</mml:mo></mml:msup></mml:math>ions. Physical Review A, 2011, 84, .	2.5	15
26	Radiative lifetime of the aâ€‰Î£3+ state of HeH+ from ab initio calculations. Journal of Chemical Physics, 2010, 133, 114302.	3.0	13
27	Isotope effect in charge-transfer collisions of H with He<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mrow /><mml:mo>+</mml:mo></mml:msup></mml:math>. Physical Review A, 2011, 84, .	2.5	13
28	Photodissociation and Radiative Association of HeH⁺ in the Metastable Triplet State. Journal of Physical Chemistry A, 2013, 117, 9486-9492.	2.5	12
29	Simulating rotationally inelastic collisions using a direct simulation Monte Carlo method. Molecular Physics, 2015, 113, 3972-3978.	1.7	12
30	Hollow Atoms: a Theoretical Challenge. Physica Scripta, 2001, T95, 68.	2.5	11
31	Density Functional Theory Interpretation of the ¹H Photo-Chemically Induced Dynamic Nuclear Polarization Enhancements Characterizing Photoreduced Polyazaaromatic Ru(II) Coordination Complexes. Inorganic Chemistry, 2010, 49, 7826-7831.	4.0	11
32	Ab initio study of the neutral and anionic alkali and alkaline earth hydroxides: Electronic structure and prospects for sympathetic cooling of OHâ^'. Journal of Chemical Physics, 2017, 146, 194309.	3.0	10
33	Using a direct simulation Monte Carlo approach to model collisions in a buffer gas cell. Journal of Chemical Physics, 2017, 146, 044302.	3.0	10
34	Cold reactive and nonreactive collisions of Li and Rb with <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi mathvariant="normal">C</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msup><mml:mrow /><mml:mo>â^'</mml:mo></mml:msup></mml:mrow></mml:math> : Implications for hybrid-trap experiments. Physical Review A, 2019, 99, .	2.5	10
35	Calculations of autoionization rates for double-Auger decay of multiply-excited states in nitrogen. Journal of Physics B: Atomic, Molecular and Optical Physics, 1992, 25, 3613-3619.	1.5	9
36	Statistical properties of hollow atoms. Physical Review A, 2002, 65, .	2.5	9

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37	Charge transfer in low-energy collisions of H with He⁺and H⁺with He in excited states. Journal of Physics B: Atomic, Molecular and Optical Physics, 2018, 51, 085205.	1.5	8
38	Auger decay of slow highly-ionised ions neutralised at surfaces. Surface Science, 1992, 269-270, 596-600.	1.9	7
39	Ab initio study of reactive collisions between Rb(2S) or Rb(2P) and OHâ^'(1Î£+). Journal of Chemical Physics, 2016, 144, 204306.	3.0	7
40	Rovibrational laser control targeting a dark state in acetylene. Simulation in the N_s = 1, N_r = 5 polyad. Molecular Physics, 2018, 116, 2213-2225.	1.7	5
41	Experimental and theoretical study of CVV Auger peaks of selected aluminium and carbon compounds. Surface and Interface Analysis, 2004, 36, 798-800.	1.8	4
42	A test of optimal laser impulsion for controlling population within theN_sÂ= 1,N_rÂ= 5 polyad of¹²C₂H₂. Molecular Physics, 2015, 113, 4000-4006.	1.7	4
43	Simulation of the elementary evolution operator with the motional states of an ion in an anharmonic trap. Journal of Chemical Physics, 2015, 142, 134304.	3.0	4
44	Use of symmetry-adapted Brillouin theorem to analyze the variational content of molecular wave functions along potential energy surfaces: Application to BH2 and PO2. International Journal of Quantum Chemistry, 1997, 62, 521-541.	2.0	3
45	Photodissociation of the carbon monoxide dication in the 3Î£â^' manifold: Quantum control simulation towards the C2+ + O channel. Journal of Chemical Physics, 2015, 143, 164309.	3.0	3
46	Reactivity of Hydrated Hydroxide Anion Clusters with H and Rb: An ab Initio Study. Journal of Physical Chemistry A, 2019, 123, 8893-8906.	2.5	3
47	Laser control of a dark vibrational state of acetylene in the gas phaseâ€"Fourier transform pulse shaping constraints and effects of decoherence. Journal of Chemical Physics, 2022, 156, 084302.	3.0	3
48	Auger and photoelectron relaxation energy in aluminum compounds: A cluster model. Journal of Electron Spectroscopy and Related Phenomena, 2007, 159, 1-7.	1.7	2
49	From atoms to biomolecules: a fruitful perspective. Theoretical Chemistry Accounts, 2012, 131, 1.	1.4	2
50	Lindblad parameters from high resolution spectroscopy to describe collision-induced rovibrational decoherence in the gas phaseâ€"Application to acetylene. Journal of Chemical Physics, 2021, 154, 144308.	3.0	2
51	Cold collisions of C_2^- with Li and Rb atoms in hybrid traps. Journal of Physics: Conference Series, 2020, 1412, 062003.	0.4	1
52	Special issue on atomic and molecular collision mechanisms. Molecular Physics, 2015, 113, 3917-3917.	1.7	0
53	From atoms to biomolecules: a fruitful perspective. Highlights in Theoretical Chemistry, 2014, , 149-165.	0.0	0